DOCUMENT RESUME

ED 058 905 LI 003 411

AUTHOR Heiliger, Edward M.
TITLE Teaching Information Retrieval Using Telediscussion Techniques.
INSTITUTION Kent State Univ., Ohio. Center for Library Studies.
PUB DATE 72
NOTE 15p.; (11 References)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Education; Experimental Programs; *Graduate Students; *Information Retrieval; Information Scientists; *Seminars; *Teaching Techniques; *Telephone Instruction

ABSTRACT

This paper concerns an experiment in teaching a graduate seminar on Information Retrieval using telediscussion techniques. Outstanding persons from Project INTREX, MEDLARS, Chemical Abstracts, the University of Georgia, the SUNY biomedical Network, AEC, NASA, and DDC gave hour-long telelectures. A Conference Telephone Set was used with success. Student diaries and an observer provided part of the background material for this paper. Recommendations include suggestions that the course be given once a week in two and one-half hour sections, with discussion of the telelecture both preceding and following the presentations; that alternate weeks be devoted to classroom lectures on theory; and that there be an exchange of personal information between the speaker and the students before the lecture. (Author)

ED 058905

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

TEACHING INFORMATION RETRIEVAL USING TELEDISCUSSION TECHNIQUES

Edward M. Heiliger

Professor, School of Library Science
Kent State University
Director, Kent Center for Library Studies

1972

LI 003 411

Abstract:

This paper concerns an experiment in teaching a graduate seminar on Information Retrieval using telediscussion techniques. Outstanding persons from Project INTREX, MEDLARS, Chemical Abstracts, the University of Georgia, the SUNY biomedical Network, AEC,NASA, and DDC gave hour-long telelectures. A Conference Telephone Set was used with success. Student diaries and an observer provided part of the background material for this paper. Recommendations include suggestions that the course be given once a week in two and one-half hour sections, with discussion of the telelecture both preceding and following the presentations; that alternate weeks be devoted to classroom lectures on theory; and that there be an exchange of personal information between the speaker and the students before the lecture.

The course which will be discussed in this paper is a graduate seminar entitled "Information Retrieval in Libraries", conducted at the School of Library Science at Kent State University during January, February, and March, 1971.

There were twenty class sessions, each lasting an hour and fifteen minutes. Eight of these class sessions were devoted to telelectures, eight were discussion periods about the telelecture, one was an introductory lecture, one was a visit to the Lewis Research Center of NASA in Cleveland (during which the students were able to participate in on-line searching of a data base in College Park, Maryland), and two were used for examinations. The seminar met twice a week, Tuesday and Thursday mornings, from 8:30 to 9:45. Tuesday mornings were devoted to a discussion of the literature provided by the telelecturer who was to speak on Thursday. In each case this literature was provided by the lecturer and arrived well in advance of the telelecture, giving the eleven students time to peruse the literature before the telelecture.

The first telelecture was given by Peter Kugel of M.I.T. who spoke on Project INTREX; the second by Davis McCarn, Director of the Lister Hill Communications Center of the National Library of Medicine, who spoke on the MEDLARS Project; the third was given by Ralph O'Dette of Chemical Abstracts Service who spoke on Information Retrieval Services of Chemical Abstracts; the fourth by Jack Stearns of the

Scientific and Technical Information Office of the National Aeronautics and Space Administration, who spoke on the NASA Scientific Information Program; the fifth by Martin Brooks of the Defense Documentation Center, speaking on DDC Information Retrieval Work; the sixth by Rudolf Lienhard, Mrs. Jean Egelard and James Jordan of the State University of N. Y., discussing the SUNY Bio-Medical Communications Network; the seventh by Margaret Parks of the University of Georgia, who spoke about the searching of commercial data banks at the University of Georgia; and the eighth by Francois Kertez and Donald Davis of the Oak Ridge National Library who discussed Information Retrieval work at AEC.

The telelecturers were important people with busy schedules. Dates had to be set up well ahead of time. In several cases time adjustments had to be made. The NASA lecture was interrupted by the moon-shot week activities, for instance. Weather could be a problem, but didn't prove to be in our case. The Project INTREX lecturer warned that a bad storm in the Boston area could have interfered. The fact that the telelecture can be given from any place there is a telephone can be of help in some situations.

Several of the speakers indicated they missed the eye-to-eye contact with the students. This was apparently a one-sided reaction because the students did not miss this. Those lecturers who missed the eye-to-eye contact made some

of the better presentations. In the future it might help if the students could have pictures of the lecturers and the lecturer could have a picture of the students.

The students expressed considerable interest in knowing more about the speaker as a person. A picture plus some biographical information might have helped in this regard. Picturephone will certainly enhance telelectures.

One of the lecturers sent slides to be shown during the telelecture, but they never arrived; another sent a flow chart which he wanted to discuss. The latter was duplicated so that each student could follow the chart during the lecture. One lecturer wanted to have a blackboard in the seminar room so that someone could post some of the information. It was decided that each student could do this himself on a piece of paper and thereby have a record for his own use.

The literature supplied by the telelecturer varied from excellent to rather useless. Overall, it was good. Usually enough copies were sent so that each student could have his own copy. In a few cases, Xerox copies were made here. Additional reading from references given in the literature sent was a help. Documents of particular assistance are listed at the end of this paper, representing about 25% of the total received from the telelecturers.

The length of the telelecture, one hour, seemed to be too short. The students felt that they could have benefited

from more time for both listening and questioning. This seems contrary to the telephone company's advice which indicates one hour is the maximum length for sustained interest. Perhaps the telediscussion approach as distinct from the telelecture makes the difference. There was general agreement amongst the students that in the future, the telediscussion courses should be given once a week in two and one-half hour sections, with discussion of the telelecture both preceding and following the presentations.

Consideration should be given to the possibility of interspersing telelectures with classroom lectures which present the theoretical aspects of the subject. Time limitations in a quarter system make this difficult. During and after telelectures the discussion can be so directed that much of this can be brought out, but in this particular tryout the students lost in this respect.

In all cases but one, the speaker had a general knowledge of the project he was discussing. In that one case, the strong emphasis on the particular work of the individual gave the student an incomplete picture of the entire project. One of the speakers had a strong foreign accent which definitely handicapped the students in understanding him. I suspect that the same accent if the person were present, would not be distracting. Fortunately, this speaker had included in his package of material sent ahead an excellent paper of his

covering the main body of his remarks.

Telecturers should be warned not to read their lectures. A conversational mode, using a natural friendly manner, come thru more effectively. The Ohio Bell people provided an excellent 12 page pamphlet with the title, "TELE-LECTURE: Suggestions for Effective Tele-Lecture Presentations". This was originally prepared by James E. Roever from Northwestern University for the Illinois Bell people. This did not become available for use by the first three telelecturers, but copies were circulated immediately to the other five. This is a very useful guide for the lecturer. General advice to the telelecturer: speak naturally--not too slow, not too fast; vary from loud to soft, because your voice is amplified; enunciate clearly, pronounce clearly; vary your voice in every way possible; use repetition, but don't overdo it; encourage feedback to be sure that you are getting through; watch the clock, because time passes rapidly; don't worry about pauses, people are probably only thinking; use names when you can; make references to things that relate to the students' interests; and keep the noise factor down near your telephone.

The telelecturer should try to relate more closely to the students. Several in this course were definitely more successful in this than others. Perhaps self-identification by each student before he speaks would help, backstopped by some biographical data about each student sent ahead for the use of the telelecturer.

"The Pause that Refreshes" doesn't hold for the telelecturers. Pauses, without access to visible reactions, are

worrisome. However, it must be understood that many pauses are necessary. The professor, acting as moderator, is under pressure to fill in the gaps when it is obvious that the pause in question is not being used for considering a question or preparing to launch forth on a new aspect of the telelecture. We don't have an applause machine or canned laughter, and perhaps we should. The telelecturer seems to need more assurance that someone is at the other end of the line. The students are busy taking notes, which isn't conducive to giving audible evidence that he is alive and listening. Perhaps an occasional joke by the telelecturer and appropriate laughter by the students will help. Humorous reaction by the professor appropriately appreciated (audibly) by the students could help reassure the lecturer that the flag was still there.

In several cases more than one telelecturer was involved; in one case there were three telelecturers during the hour. This was very effective, but left very little time for student interaction with the lecturer. In these cases, one hour did not seem adequate.

All of the telelecturers in this course were from information retrieval projects in the field of science. There could have been a mix of science, social science, and the humanities. This would hve made the course more interesting. However, a plus value to confining the series to science was that the overlapping and interdependence of various projects

became evident, indicating a trend towards networks and other forms of cooperation. Examples of this were cooperation between the University of Georgia and the University of Pittsburgh, between AEC and DDC, and between the SUNY Bio-Medical Network and the National Library of Medicine.

Testing in a telelecture course must consider that the students cannot acquire organized information as easily from telelectures as from a typical classroom presentation. Adequate post-lecture discussion can overcome some of this.

Careful reading of the literature before each lecture can prevent some questions which are a waste of time to all concerned. At the other end, the telelecturer must be adroit in answering questions. Time is limited, and it is easy to stray into interesting areas that are not sufficiently pertinent. As the course progresses, the students tend to refer to previous telelectures. This brought out evidence of cooperation and coordination between the projects and served a very useful purpose.

A considerable part of the telelecturers' time was spent repeating what the students had alread read. It would be interesting to try sessions devoted entirely to questions. Even better might be to videotape a seminar discussion by the class following the reading of the literature, and send the videotape to the telelecturer for his perusal before giving his lecture. Audio-visual materials,such as films and slides with sound tracks, sent ahead for perusal before the presentation

could be very helpful, but this was not tried.

As the course progressed, it was decided to draft questions which might be appropriate to use, with a warning that the telelecturer might well answer the question before anyone had a chance to ask it. Opinion was divided on the advisability of doing this. Speaking for myself, as the moderator, I found it most necessary to have such questions ready.

The professor as moderator in this course apparently interrupted the speaker too often, judging by student reactions. The note-taking procedure apprently goes more smoothly if the lecturer can have his say without any interruption from the professor. In self-defense, it can be said that certain facts can be best brought out as the point is being discussed. It also suggests that a dialog format with the telelecturer and the professor as the participants could be considered as an alternative type of presentation. There is considerable pressure on a professor conducting a tele-lecture seminar. He must try to keep the telelecturer from spending too much time in responding to student questions, must encourage the students to break away from the note-taking mode to the questioning mode, and must occasionally ask questions himself which will bring out important points. With reference to the latter, caution must be taken not to let the telelecture become a dialogue between the professor and the lecturer.

The value of this type of course should be considered for continuing education for practicing librarians. The telediscussion technique should also be considered in terms of its value as support for each course in the library school.

The students kept a diary of their reactions to each telelecture and summarized their reactions to the course. In general, they enjoyed the course. Towards the end, they felt that there was more repetition, and interest ebbed somewhat, even though the last lectures were considered excellent. The up-to-dateness, the chance to relate to what were obviously outstanding people in the field, and the opportunity to "talk back to the author", were appreciated. Each project was important as a whole and some students felt that some lecturers were good at presenting it this way and others were too engrossed in one facet of the total project.

From the point of view of the professor, the use of two or three telelecturers was a great help, because it introduced variety and kept the tendency to go the dialog way under control. Through correspondence, it is a good idea to inform the telelecturer in advance of any special problems you would like to have discussed. This was done in several cases and the results were gratifying.

For the first two telelectures we used a hands-off telephone set. This was very satisfactory in one respect, in that it does not require the use of microphones. However,

we found that the volume was not great enough for easy listening unless the connection was unusually good. Russell Montgomery, the University's Coordinator for Telephone Services, brought us a Conference Telephone Set that he claimed was far superior to the old telelecture equipment. We tested it and found that the volume was much greater. We used this equipment for the last six lectures. The draw-back to the new equipment was that individual microphones had to be passed around the table for the students to use. There was a definite feeling on the part of the students that the use of the microphone tended to discourage some students from asking questions.

The room used for the seminar was rather a large room. A smaller room one into which 11 students would have fit would have made the hands-off set adequate. The larger room was helpful in that we were able to invite library school faculty and library staff members in to audit the tele-lectures. No more than three or four of these came at any one time. The students and the professor sat at tables in a U-shape formation. The Conference Telephone Set was borrowed from the telephone office for each lecture. Special wall plugs were installed to make it possible to use the equipment only when it was needed.

We were assured by the telephone company that as many as five can share the telelecturing, each with his own extension, without loss of volume. SUNY did very well with

three, but AEC suffered some loss on one of its two extensions. The noise factor on any one extension can affect reception. Quiet is necessary in the telelecture classroom, especially if the presentation is low in volume or for any other reason a high degree of concentration is needed. Several times guests arrived late and caused some disruption.

One student suggested that telelecture does not describe the process, but the telediscussion is better. The telephone company prefers to call them conference calls. Teleteaching and telelearning do not seem to have been used in the literature to any great degree. Telelecture achieved something of a bad name in years past because of inferior equipment.

The students felt that listening to such a variety of experts in the field was a great help in picking up the "jargon" of information retrieval. Also, they felt that having had the course "Data Processing in Libraries" was a great help in understanding the telelectures. The lecturers were not library types, but this did not seem to be a limiting factor.

The dynamic nature of the subject, causing rapid change because of new technology, makes the telelecture approach more pertinent. Information Science is a whole new field with its own graduate programs. One short course in a library school hardly covers the field. Perhaps a school should have been a separate course relating to practical

applications of the new information theory.

At the classroom end, there are certain precautions to be observed. Be sure that the extension line you are using will not be used by someone else. Keep the phone number you are using handy in case your connection worsens. Interrupt the presentation and call the operator for help. The professor, as moderator, must have his own microphone. Keep all noise factors down. Have adequate light in the room for note-taking. Inform the telelecturer if you intend to record the telelecture. Consider having each student introduce himself and identify himself each time he speaks. The moderator should cover pauses while the other microphone is being moved to another student, should plant questions when it seems feasible, should act as middlemen in the whole procedure, and should lead in applause at the end if this seems desireable.

SELECTED READINGS SUPPLIED BY THE TELELECTURERS.

"What NASA/RECON can do for you, a Computerized Information System at your Fingertips" NASA, Washington, D.C., July, 1970.

"A Guide to MEDLARS Services" National Library of Medicine, Bethesda, Md.. Revised July, 1970.

"Information Transfer Experiments at MIT". Carl F. J. Overhage and J. Francis Reintjes. Information Processing 68, North-Holland Publishing Co. Amsterdam (1969).

"Experience of an Information Center with Multiple Data Bases from Several Suppliers". By M. K. Park. Computer Center, University of Georgia. 1969.

"Education in the Use of Modern Information Retrieval Techniques". By M. K. Park, M. C. Caughman, and H. J. Hamilton. Computer Center, University of Georgia. 1970.

"A Description of the DDC Information System". Defense Documentation Center, Cameron Station, Alexandria, Virginia. August, 1970.

"Instructions given to Analysts who Structure RESPONSA Searches". Atomic Energy Commission, Oak Ridge, Tenn. Mimeographed.

"Information Services 1971". Chemical Abstract Service, Columbus, Ohio. 1971.

"The Information Center Concept". by Francois Kertez. Nuclear Engineering and Design (1969) 383-391. North-Holland Publishing Co., Amsterdam. Reprint from AEC, Oak Ridge, Tenn.

"In-Depth Indexing of Monograph Literature for an on-line Retrieval System.- a Pilot Project". by Janet Egelard. SUNY Biomedical Communications Network, Syracuse, N. Y. Jan. 29, 1971.

"The Application of Computers in the State University of New York Biomedical Communications Network". by Irwin Pizer. 8th IBM Medical Symposium, Poughkeepsie, N. Y. 1967.